RECEIVED

FEB 2 0 2004

TECHNOLOGY CENTER R3700

12-31-03

$ RCE 3700

OIPE JCA2 DEC 3 0 2003 PATENT & TRADEMARK OFFICE

PTO/SB/30 (08-03)
Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Request For Continued Examination (RCE) Transmittal

Address to:
Mail Stop RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Application Number	09/658,907
Filing Date	September 11, 2000
First Named Inventor	Kristopher Kohl et al.
Art Unit	3753
Examiner Name	Ramesh Krishnamurthy
Attorney Docket Number	194-13026-CIP

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. See Instruction Sheet for RCEs (not to be submitted to the USPTO) on page 2.

1. Submission required under 37 CFR 1.114 Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).
   - a. ☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.
     - i. ☐ Consider the arguments in the Appeal Brief or Rely Brief previously filed on ________
     - ii. ☐ Other ________
   - b. ☑ Enclosed
     - I. ☐ Amendment/Reply
     - ii. ☑ Affidavit(s)/ Declaration(s) **(Declaration of C. Mitch Means)**
     - iii. ☐ Information Disclosure Statement (IDS)
     - iv. ☑ Other **1) Copy of Hart's E&P- 4 pages 2) April 2003 Issue of Hart's E&P**

RECEIVED
JAN 0 7 2004
TECHNOLOGY CENTER R3700

2. Miscellaneous
   - a. ☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of ____ months. (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)
   - b. ☐ Other ________

3. Fees The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.
   - a. ☑ The Director is hereby authorized to charge the following fees, or credit any overpayments, to Deposit Account No. 02-0429 (194-13026-CIP)
     - i. ☑ RCE fee required under 37 CFR 1.17(e)
     - ii. ☐ Extension of time fee (37 CFR 1.136 and 1.17)
     - iii. ☑ Other **Charge any fees deemed necessary during the pendency of this application.**
   - b. ☐ Check in the amount of $ ________ enclosed
   - c. ☐ Payment by credit card (Form PTO-2038 enclosed)

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

Name (Print/Type)	Gene L. Tyler	Registration No. (Attorney/Agent)	35,395
Signature		Date	December 30, 2003

CERTIFICATE OF MAILING OR TRANSMISSION EV369817004US

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop RCE, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450 or facsimile transmitted to the U.S. Patent and Trademark Office on the date shown below.

Name (Print/Type)	Naghma Hall		
Signature		Date	December 30, 2003

01/05/2004 CNGUYEN 00000032 020429 09658907
01 FC:1801 770.00 DA

DECLARATION OF C. MITCH MEANS

I, C. Mitch Means, hereby declare:

1. My home address is 5011 Saddle Dr., Needville, Texas 77461;
2. I became an employee of Baker Petrolite in 1998;
3. I became Manger of Chemical Automation Systems in 2000;
4. I am aware of the sales of our SENTRY SYSTEMS, which are devices incorporating the invention disclosed in U.S. Patent Application No. 09/658,907;
5. I am aware of a first case study regarding a SENTRY SYSTEM wherein a SentryNet II proportional feed controller was used to control scale inhibitor chemical usage and that usage was reduced an average of 25% resulting a savings of $156 per day ($56,940 per year)in chemical costs.
6. I am aware of a second case study regarding a SENTRY SYSTEM wherein 16 SentryNet II units were installed at an offshore facility and the chemical flow rate signal was used to compare real time chemical injection rates to other monitored parameters in the high pressure gas separation equipment train and the operator concluded that they could use 50% less defoamer at this facility without causing a system upset which will result in a combined savings in water clarifier and emulsion breaker chemical usage of $500K per year.
7. That the total sales of SENTRY SYTEMS is Total sales of units through October of 2002 is $392k
   3 CMM
8. That the total chemical sales for SENTY SYTEMS for Jan. 1, 2003 through about October 31, 2003 is about 3 million dollars.
9. I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or

both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any registration resulting therefrom.

Furthermore Declarant sayeth not.

Signed:

C. Mitch Means

Date: 12-26-03

GLOBAL EXPLORATION & PRODUCTION NEWS • TECHNOLOGY UPDATES • ANALYSIS

HART'S E&P

APRIL 2003

www.EandPnet.com

A Chemical Week Associates Publication

Top 14 Innovators

28th annual award winners announced

Offshore Technology Update

Seismic Advances

Production Enhancement

HART'S

E&P

GLOBAL EXPLORATION & PRODUCTION NEWS
TECHNOLOGY UPDATES • ANALYSIS

APRIL 2003

VOLUME 76 ISSUE 04

FEATURES

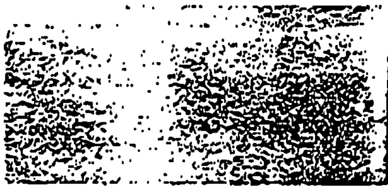
COVER: Offshore Technology

Seismic Advances

Advanced Production

MEA Awards

TECHNOLOGY SECTIONS



REMOTE MONITORING

Chemistry control with a click

Optimization of production chemical delivery is possible with a monitoring and control system.

By Senior Production Editor KARL LANG

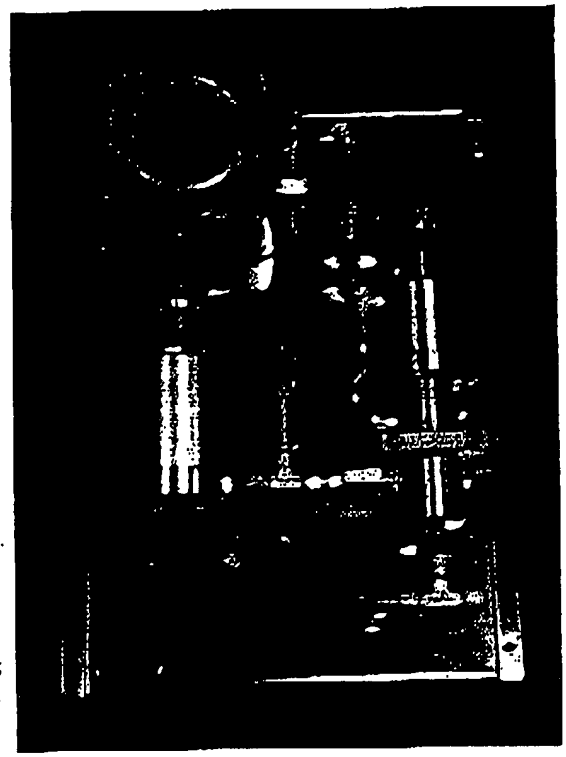
A key component of recent advances in production optimization has been improvement in the ability to monitor and control production systems in real time, particularly at remote locations. The focus has been on enhancing an engineer's ability to monitor the flowing performance of wells and the operating performance of processing equipment through sensors, and to make precise adjustments to the system at the most appropriate time, from a distance. The addition of chemicals to the production and process stream, a task carried out by legions of sturdy little injection pumps in oil fields all over the world, has more than likely been at the bottom of the list of activities where real-time monitoring and control is implemented. This is no longer the case, for two important reasons.

First, the impact of a process shutdown on the high volume, remote, often unmanned, production systems in place today is much greater, operationally and economically, than it was on yesterday's oilfield systems. Second, there is increased reliance on the use of tailored chemical additives in maintaining flow and corrosion control during the production process. A larger number of chemicals are playing an increasingly important role in optimizing production. So it should come as no surprise that operators are looking much more closely at real-time monitoring and control of chemical delivery in production systems. One approach is Baker Petrolite's SentryNet system introduced 2 years ago and currently in use at a number of remote and unmanned facilities in the Gulf of Mexico and elsewhere.

The system consists of a pump control module, a high-precision flowmeter, and a Modbus communication package for communication to a central processing location. There are two versions of the pump control module. The SentryNet version provides electronic actuation of electric pumps via a 4-20mA signal. The same signal can be used in conjunction with a DCS controller or variable speed drive to control motor speed and hence injection rate. The Sentry MP unit is designed for control of pneumatic pumps through a multi-configurable pulse output that controls air or gas flow to the pump via a solenoid valve. The controller maintains a precise chemical injection rate under changing process conditions and reports injection data to a central location.

Central to the operation of the system is a high-precision flowmeter. This meter reads the actual pumped chemical rate and is accurate at rates as low as two quarts per day. A variety of onboard alarm systems indicate low flow, no flow and leaking solenoid situations, ensuring that the specified amount of chemical is injected with each pulse.

The control modules communicate over an RS-485 network bus. In addition to accepting injection rate set-point signals, the units can also report back on performance variables such as actual rate vs. set point, batch and cumulative injection totals and other operating parameters. As many as 56 units can be handled with one RS-485 cable, which is connected to a modem/telemetry unit. This device transmits the information from the remote site to a similar modem on a central processing location. Commonly, a multi-point broadcast radio frequency modem is used as the communication device on remote platforms. The central location modem is configured to transmit and receive signals from many remote modems at once, in each case addressing only the intended individual control module and its associated pump. Where there is no existing DCS system, an Internet interface may be used.



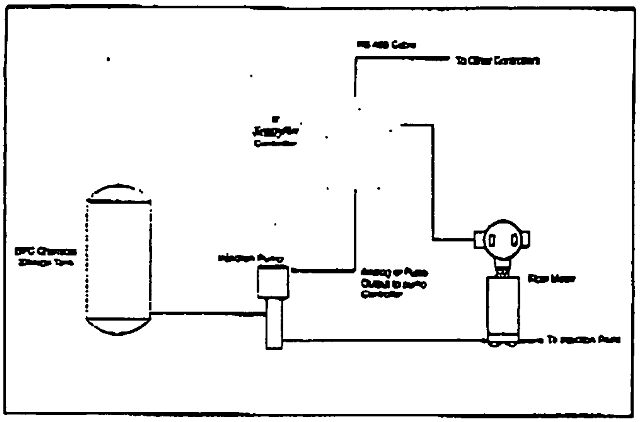
Baker Petrolite's SentryNet system consists of a control unit, pump and flowmeter.

Benefits of fingertip control

The architecture of the software utilized for monitoring and controlling the chemical pumps is structured so that a single central location has control over the entire injection pump network. The software provides an operator with real-time data on all control units as well as any other instrumentation installed on the network (e.g., corrosion probes). The managing software overlies a customized database that eliminates day-to-day manual tasks by continuously logging chemical pump performance, injection rate changes and alarm conditions. The database can be remotely accessed via telephone modem, for near-real-time viewing of data.

Some of the benefits of fingertip control of chemical injection are obvious: more efficient operation of processing equipment, reduced labor and transportation costs, etc. However, according to Mitch Means, manager of Baker Petrolite's Chemical Automation Group, some of the most important impacts are not immediately obvious. "If a chemical pump failure on a remote platform goes undetected for a significant period of time, several miles of pipeline

IS



The above schematic illustrates the basic system components. *(Photo courtesy of and copyright by Baker Hughes Inc.)*

volume can quickly become out of spec before a back-up pump is started," said Means. "The latest version of the SentryNet controller unit can be configured to operate as both a monitor and backup system for the installed chemical injection system. If the chemical pump fails, the SentryNet controller will automatically activate a backup pump and maintain a pre-determined injection rate. The cost of lost production associated with facility upsets caused by chemical injection pump failures can be significant, particularly in the case of deepwater facilities. These situations can be minimized with real-time monitoring of the chemical system."

For multi-point injection of the same chemical, most current systems employ a design with one pump per injection point, each independently and manually controlled. Another alternative is to configure a single large chemical pump supplying a number of SentryNet-controlled valves that are monitored and adjusted independently. This design eliminates the constant maintenance issues associated with multiple pumps and provides more precise process control.

Sensor-driven chemical delivery

When chemical dosage can be precisely tuned to other measured parameters (e.g., corrosion indicators) the overall use of a chemical can be optimized, resulting in lower chemical usage over time and improved chemical performance. For example, a producing company found that it was experiencing a base corrosion rate of 10 mils per year (mpy) in a major flow line where the maximum allowable rate had been set at only 1 mpy. In order to meet the specification, a corrosion inhibitor was continuously injected at a concentration of 25 parts per million (ppm), based on available data and conventional corrosion control procedures. Subsequently, a SentryNet system was installed and data from a corrosion probe was collected in real time. The data indicated that in fact, the 1 mpy target could be achieved with a chemical dosage of only 10 ppm corrosion inhibitor. The reduction saved the producer more than US $2 million per year.

The system can accept inputs from any type of standard commercially available process monitoring device (e.g., level sensors, flowmeters, corrosion probes, H_2S monitors, etc.). Baker Petrolite has developed several proprietary devices for monitoring specific characteristics relevant to chemical remediation. One such device is a patented probe that employs a spectroscopic technique to directly measure dissolved asphaltenes in crude oil. The probe output compares with traditional methods of asphaltene characterization including IP-143 extraction gravimetric analysis and ADT spectroscopic methods. Another device also employs spectroscopic detection of oil mist in a gas stream, providing an immediate indication of process changes such as foaming or carryover. Devices such as these can be coupled with a SentryNet system to control the precise and timely addition of asphaltene inhibitor/dispersant or defoamer chemicals.

A third probe developed by Baker Petrolite senses the onset of scale formation in a mixed fluid system and can be used to optimize the injection rate of scale inhibitor. Other sensor systems under development include a corrosion probe for gas systems and a biofilm monitoring device.

"Even the most modern, reliable chemical pump will experience failures during its lifetime" Means said. "The SentryNet approach recognizes this fact and protects critical process operations through vigilance and immediate action." HXP

#25
RCE 1-16-04

Madan, Mossman & Sriram, P.C.
Attorneys At Law
2603 Augusta Drive, Suite 700, Houston, Texas 77057-5638 713 266-1130 Fax 713 266-8510

FACSIMILE COVER SHEET

Ms Ruggiero

DATE: 12/30/2003

FOR: Ms. Susan Thomson
Mr. Craig Feinberg

COMPANY OR FIRM: United States Patent & Trademark Office

FACSIMILE NO: 703-308-7953

FROM: Gene L. Tyler

NUMBER OF PAGES INCLUDING THIS COVER SHEET:

IF ANY OF THESE PAGES ARE NOT RECEIVED, PLEASE CALL BETH AT (713) 266-1130

Dear Sir & Madame:

As instructed, I have a faxed, please find, a copy of an RCE that has been filed for the case under appeal and with a hearing date of Jan. 8/14 and having the serial no. 09/658,907 and appeal number 2003-1596. Please ensure that the hearing is canceled in good time to prevent inconvenience to the appeal board.

If possible, it would be a kindness if you could send a confirmation of receipt of this fax and notice of the hearing being canceled.

Regards,
Gene Tyler